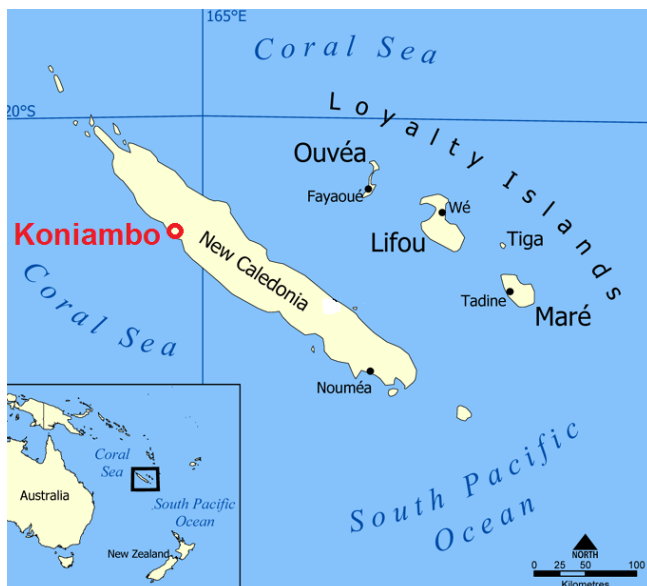




## Koniambo, New Caledonia



### Key facts about the plant

- Nickel plant
- Owner: Koniambo Nickel SAS
- Contractor: Hatch-Technip joint venture



### Key facts about the chimney

- Completed in 2010
- Hybrid chimney
- H 135m
- Two internal D shape liners
- Carbon steel liner with refractory lining
- Free standing

Koniambo Nickel SAS is based in the North Province of New Caledonia and operates as one of the world's largest and highest-grade undeveloped nickel and laterite deposits.

A new unit has been entrusted to the HATCH-TECHNIP joint venture, particularly known for the development and implementation of new metallurgical process facilities and ranked among the top five corporations in the field of oil, gas and petrochemical engineering, construction and services.

In this plant, FERBECK has been awarded an EPC contract of a 135-meter-high concrete hybrid chimney (concrete and steel).

The scope of work includes:

- foundation
- concrete shell
- steel segments
- platforms
- damper
- ladders and lift
- electric system (lighting, power supply, aircraft warning lights...)
- lightning protection system

A hybrid solution, using both concrete and steel for the same chimney, is chosen to reach the best compromise from the technical and economic point of view.



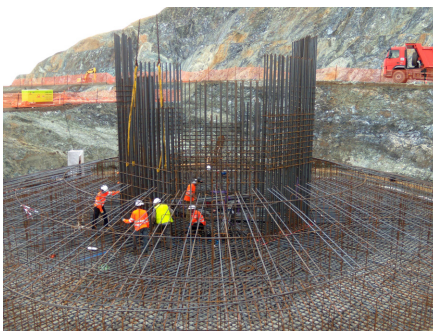
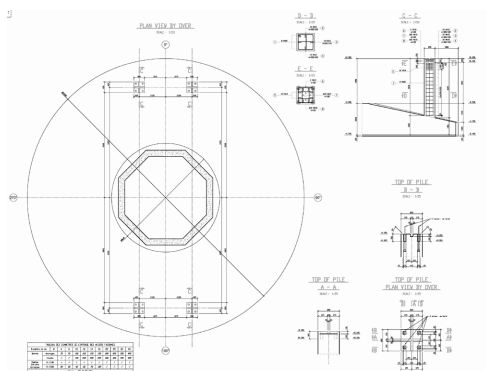


## Foundation

The foundation is made of 960m<sup>3</sup> of concrete with the following size:

- Ø 22m
- h 2.5m at EL.-5.75m

The casting has been performed in 22 hours.



## Concrete shell

The octagonal concrete shell is made of 400m<sup>3</sup> of concrete and measures D 8m x H 33.25m.

The casting is performed with a slipform operating 24/7.

An anchor bolt system is later placed to sustain the base of the steel stack, at the top of the concrete shell.







## Platforms

3 platforms are installed inside the concrete structure and 4 walkways around the steel structure:

- AWL and damper walkway at EL.+130.0m
- AWL walkway
- circular walkway at EL.+48.5m
- concrete shell roof walkway at EL.+30.0m
- platform at EL.+26.0m
- partial platform at EL.+22.9m
- platform at EL.+6.9m



## Damper

A liquid anti vibration damper is used to avoid resonance phenomena, as well as issues linked to fatigue. It is smartly designed to be used as a top platform of the structure.







### Overview of the plant

A complete industrial site is created with:

- a nickel plant with 2 production units
- a mine for the extraction of the nickel ore
- a conveyor between the mine and the plant
- a power station with 2 production units
- a harbor for the exportation of the nickel
- a water treatment unit
- all other kind of facilities dedicated to the site

